EG&G ROCKY FLATS

55563

INTEROFFICE CORRESPONDENCE

DATE: April 28, 1993

TO: Distribution

FROM: A. L. Schubert, Waste Programs, Bldg. T130C, X5251

SUBJECT: HAZARDOUS SUBSTANCES RELEASE REPORT - 1993 FIRST QUARTER - ALS-240-93

Attached is the Hazardous Substances Release Report for the time period of January through March 1993. In addition, data from the previous nine months are included for trending purposes; therefore, the total time period covered is April 1992 through March 1993. The report is divided into four sections: 1) Offsite Regulatory Notifications, 2) Root Cause Analysis, 3) Release Graphics and 4) Special Topics. Please route this report to all personnel with interest or responsibility for release investigations or critique meetings.

If you do not wish to receive a copy of this report, please send a written request to M. L. Johnson, Waste Regulatory Programs, Building T130C. If you have any questions or would like more information, please call M. L. Johnson at extension 5033 or digital pager 1028, or B. B. Haynes at extension 7754 or digital pager 0620.

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ADMIN RECORD

5568

Definitions:

For the purpose of this report only, the term hazardous substance includes any element, compound, mixture, solution or substance that may endanger human health or the environment including hazardous substances (which include radionuclides) as defined by 40 CFR Part 302, extremely hazardous substances as defined by 40 CFR Part 355, hazardous materials as defined by 49 CFR Part 173, hazardous waste as defined by 40 CFR Part 261, oil and petroleum products (including antifreeze), and nonhazardous substances (e.g. water) contaminated by hazardous constituents.

A **release** includes any spilling, leaking, pumping, pouring, emitting, emptying, discharging or dumping of a hazardous substance **inside any building/containment or to the environment.** Release also includes the abandonment or discarding of barrels, containers, and other closed receptacles of any hazardous substance. The discovery of accumulated liquids within secondary containment for Resource Conservation and Recovery Act (RCRA) regulated systems, that appear to be waste-like in nature or have been analytically tested and verified to be a solid or hazardous waste, have also been included in this report.

An **internally reportable release** includes all solid and liquid releases of hazardous substances equal to or greater than one pound (one pint for aqueous liquids) and all gaseous releases that occur inside or outside buildings or containments. A release of solid or liquid hazardous substance less than one pound is also internally reportable if the release directly impacts the environment. These releases must be reported to the Shift Superintendent and the Occurrence Notification Center (ONC). All reported mercury spills (including releases less than one pound, approximately 2 1/2 teaspoons) are included in the data base. Waste Regulatory Programs is then responsible for evaluating if additional reporting is required to offsite regulatory agencies.

A release reportable to the Department of Energy, Rocky Flats Office (DOE, RFO) is any release that has been categorized and reported to DOE, RFO as an Off-Normal, Unusual, or Emergency occurrence as defined by DOE Order 5000.3A.

Releases from privately owned vehicle (POV) have been specifically identified in the charts. Releases that occur inside of a building are labeled as Bldg-XXX (reference the releases by location charts). All other spills (including releases identified Bldg-XXX Vicinity) occurred outside a building.

Offsite Regulatory Notifications:

This section of the report documents the occurrences for which the RCRA Contingency Plan (dated 10-24-91) was implemented, an Environmental Release Report was generated or notifications were made to EPA National Response Center (NRC), State Emergency Response Commission (SERC) and/or Local Emergency Planning Committees (LEPC). Our number one goal is to reduce these occurrences and to minimize the threat to human health and the environment.

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includes all of the releases of hazardous substances which were reported for the entire plant site for a 12-month period. The second package limits the data to those releases occurring outside buildings or containment structures for the same time period. Outside releases are immediate threats to human health and the environment and should, therefore, be targeted for serious corrective measures. The data includes releases greater than or equal to one pound (or one pint for aqueous liquids), except that for mercury, all known releases of mercury have been included in the data base. The release graphics have been revised to specifically identify the releases from privately owned vehicles.

Special Topics:

This section of the report includes information clarifying release reporting requirements.

A buildup of crystalline material on flange connections or fittings is considered a release and may be reportable to offsite regulatory agencies if the release is associated with the RCRA interim status or 90-day storage tank system. The release must be reported to the Shift Superintendent if one pound (or one pint aqueous liquid) or more is released or a release from a RCRA-regulated waste tank system has not been cleaned up within 24 hours. All releases from RCRA interim status or 90-day storage tank systems must be cleaned up within 24 hours.

In addition, a release of liquids into plastic wrap covering ancillary equipment (e.g., piping, valves, flanges) is considered a reportable release from the primary containment if: 1) one pound (or pint of aqueous liquids) or greater of RCRA-regulated waste is released into the plastic; or 2) if the liquid from a RCRA-regulated tank is not cleaned up within 24 hours.

Additionally, any discovery of accumulated liquids within a secondary containment for RCRA-regulated systems must be cleaned up within 24 hours. If it is not cleaned up within 24 hours, a determination must be made as to whether the liquid is a RCRA-regulated waste, and if this determination cannot be made, the RCRA Contingency Plan may have to be implemented. If the accumulated liquids are known to be non-hazardous and the material has not been cleaned up within 96 hours, then this noncompliance must be reported to DOE, RFO through the Occurrence Reporting process.

A release from primary containment (e.g., piping, tanks, valves, pumps, etc.) of one pound (one pint aqueous liquids) or more of hazardous substance which is contained within a glovebox should be reported to the Shift Superintendent unless the release is associated with in-process accumulation of material.

A release of RCRA-regulated hazardous waste from primary containment that is fully contained within a glovebox does not require implementation of the RCRA Contingency Plan because the release did not impact health or the environment. A release of hazardous waste that is not fully contained within the glovebox may require implementation of the RCRA Contingency Plan.

A release within a glovebox that results in a hazardous waste could result in a noncompliance with RCRA regulations concerning storage of hazardous waste in approved accumulation areas. A case-by-case assessment of the release must be completed by Waste Technical Support (previously known as Waste Area Engineering) to evaluate if the release resulted in noncompliant storage of a hazardous waste or if the release is associated with in-process accumulation of material.

92-010	5-8-92	< 20 mL	MATERIAL RELEASED: caustic solution (D002, D006, D007, D008) A release from a mixed residue tank system (D400A and D400C) in B-371, room 1115, was not cleaned up within 24 hours. The release was captured within the double plastic wrap covering the ancillary equipment.
92-011	5-8-92	< 3 mL	MATERIAL RELEASED: ferrous sulfate product Process knowledge established the release from a tank (D1414) in B-771, room 181A to be ferrous sulfate which is not a RCRA-regulated waste. The tank had been erroneously identified as a mixed residue tank; the release was not cleaned up within 24 hours even though it was contained within plastic wrap covering the ancillary equipment.
92-012	5-8-92	< 1 pint	MATERIAL RELEASED: caustic solution (D002, D006, D007, D008) A release from a mixed residue tank system (D2A and D2B) in B-371, room 1115, was not cleaned up within 24 hours. The release was contained within a glovebox.
92-013	5-20-92	30 gallons	MATERIAL RELEASED: process aqueous waste (containing chromium) (D007) Operation of the RCRA regulated 90-day tank systems in B-731 with "unfit-for-use" secondary containment was continued and spill material was not removed within 24 hours.
92-014	5-24/26-92	1386 gallons	MATERIAL RELEASED: caustic solution (based on analytical results completed after release, material released was not RCRA-regulated hazardous waste) A release from a liquid process RCRA-regulated waste line in B-371, room 1117 was not cleaned up within 24 hours.

92-020	9-15-92	200 gallon	MATERIAL RELEASED: process aqueous waste (D002, corrosive) A release of process waste from a RCRA regulated tank system (sump tank ST-5, RCRA unit 40.15) into the secondary containment occurred. The quantity of released material did not exceed the secondary containment capacity and did not go over the top of the liner. However, approximately 6 gallons were released through the liner but were contained within the concrete pit.
92-021	9-25-92	~1 gallon	MATERIAL RELEASED: fuel, diesel (D018, benzene) A release occurred from an overturned container of diesel fuel on the asphalt; dirt was shoveled onto the spill to contain it. The excess petroleum liquids were covered with oil-dri. Then the soil and absorbent were erroneously unloaded within the fenced landfill area.
92-022	11-10-92	100 gallon	MATERIAL RELEASED: process aqueous waste (D002, D005, D006, D007, D008, D011) Defective housing in pump leaked 100 gallons of process waste after transfer operation. This liquid was caught in secondary containment.
92-023	11-30-92	490 gal	MATERIAL RELEASED: interceptor trench water (D006, F001, F002, F003, F005, F006, F007, F009) The transfer line from the central sump to the 207-B north solar pond separated at the berm allowing a release of water down the east slope of the berm outside of the pond.
93-001	2-16-93	~ 1 spoonful	MATERIAL RELEASED: caustic solution (D002, D006, D007, D008) A spill of approximately 1 spoonful of caustic into secondary containment was not cleaned up in 24 hours.
93-002	3-9-93	50 gallons	MATERIAL RELEASED: water from Walnut Creek (F001) Environmental Management reported a break in the double-contained transfer line for Operable Unit 2 (OU2) located north of the East Access Road. An estimated 50 gallons of water routed

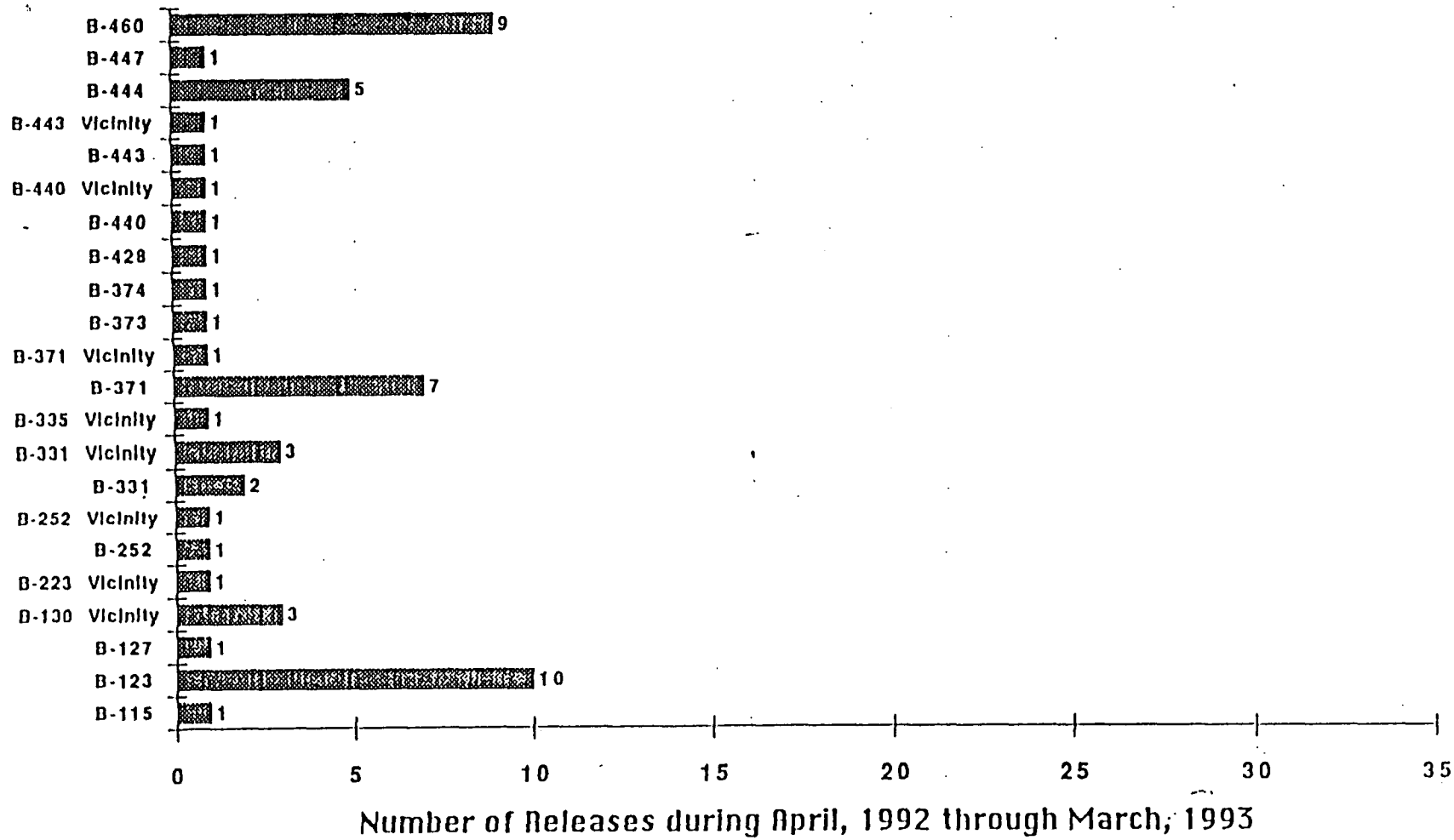
140869	10-16-92	1 quart	MATERIAL RELEASED: antifreeze Private vehicle leaked antifreeze on to the pavement in the Building 460 parking lot.
142199	10-27-92	5 gallon	MATERIAL RELEASED: fuel, diesel Approximately 5 gallons of diesel fuel leaked from a small fuel tank into the soil. The fuel also then leached through the soil and into the water. (The tank has approximately 45-50 gallons capacity; however it generally is filled to only 15-20 gallons.)
143173	11-3-92	10 gallon	MATERIAL RELEASED: antifreeze Coolant / antifreeze overflowed from a backup power generator during a test near B-443. Ten gallons was released to the pad and surrounding soil areas.
144062	11-9-92	2 gallon	MATERIAL RELEASED: antifreeze Employee's personal vehicle ruptured radiator return hose, discharging fluid to the pavement.
144425	11-11-92	28 lbs	MATERIAL RELEASED: asbestos Discovered RQ of asbestos from insulation from an old boiler released to the ground. It was estimated that 28 lbs of asbestos in 40 lbs of insulation was missing from vessel and was on the ground..
147009	11-30-92	490 gallon	MATERIAL RELEASED: interceptor trench water The transfer line from the central sump to the 207-B north solar pond separated at the berm allowing a release of water down the east slope of the berm outside of the pond. The RQ used for the interceptor trench water was 10 lbs because the weight of the entire mixture was used to determine the quantity of hazardous constituents (D006, F001, F002, F003, F005, F006, F007, F009) released since analytical data was not readily available.
147381	12-2-92	4 gallon	MATERIAL RELEASED: antifreeze Antifreeze spilled from the radiator of a privately owned vehicle.

CAUSE ANALYSIS

Cause Analysis seeks to identify the basic cause and effect relationship of a spill. The goal of the analysis is to prevent the possibility of future spills by eliminating the known causes of today's spills. The following is a rudimentary analysis of the 12-month period from April 1992 through March 1993. The purpose is to emphasize the weaknesses so that we can focus our collective attention on preventing future, similar incidents. It should be noted that a specific incident may have more than one root cause. In addition, a formal cause analysis is completed by the responsible Operations Manager for any release that is reportable to DOE, RFO.

TYPE OF ERROR	NUMBER OF INCIDENTS	RELATIVE PERCENT
Personnel	41	17.5
Procedure Not Followed	11	4.7
Training Deficiency	2	0.8
Lack of Attention	22	9.4
Programmatic Deficiency	3	1.3
Communication Deficiency	3	1.3
Procedural	7	3.0
Incomplete/Nonexistent	6	2.6
Incorrect Information	1	0.4
Equipment	83	35.5
Design Deficiency	19	8.1
Maintenance Deficiency	33	14.1
Premature Wearout	15	6.4
Installation/Mfg Deficiency	5	2.2
Other	11	4.7
Privately Owned Vehicles	30	12.8
Not Investigated	73	31.2

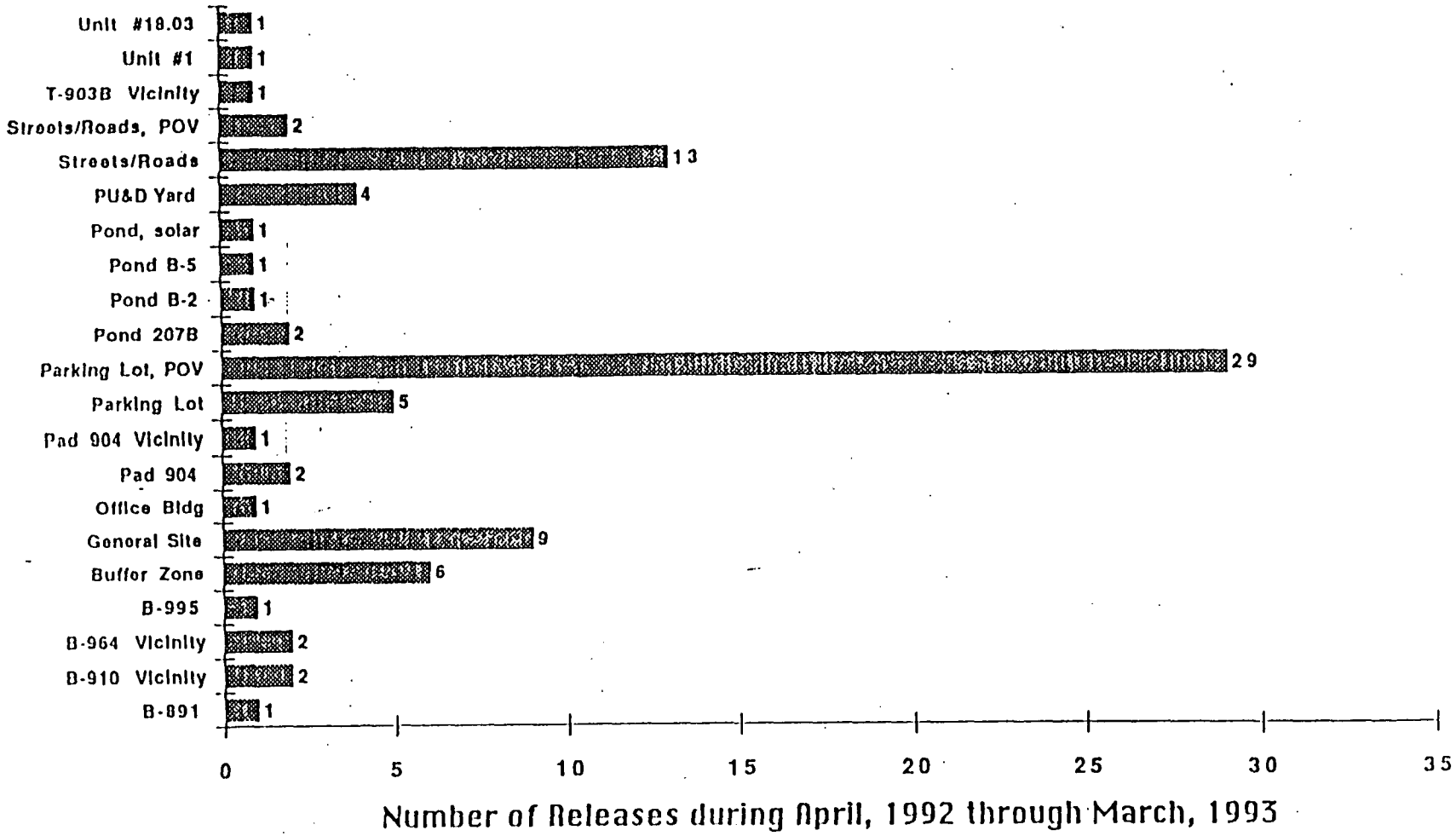
Inside and Outside Releases by Location



Inside and Outside Releases include 31 Releases from POVs

4/16/93

Inside and Outside Releases by Location



Outside Releases include 31 Releases from POVs

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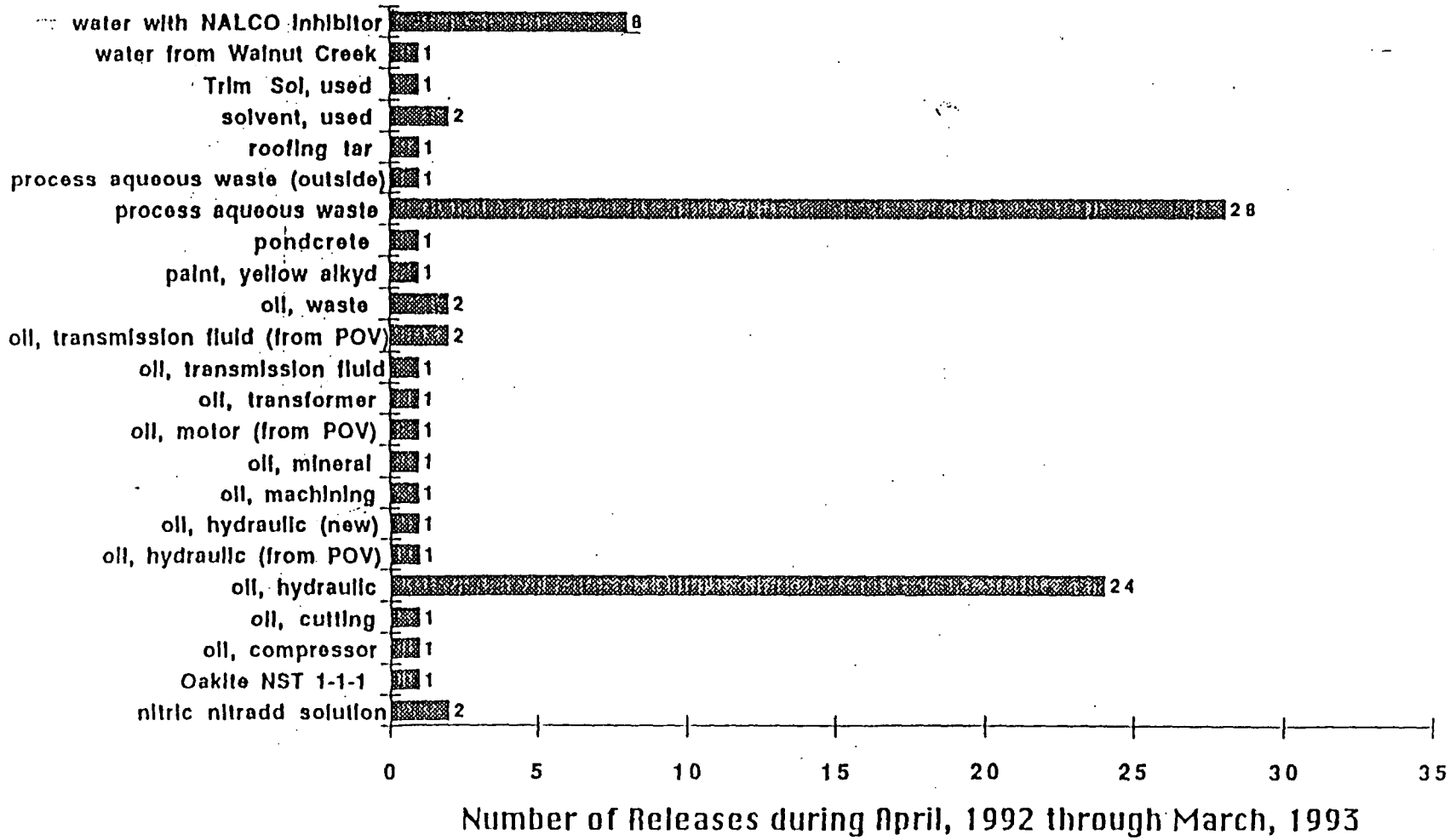
Inside and Outside Releases by Substance Type



Inside and Outside Releases include 31 Releases from POVs

4/16/93

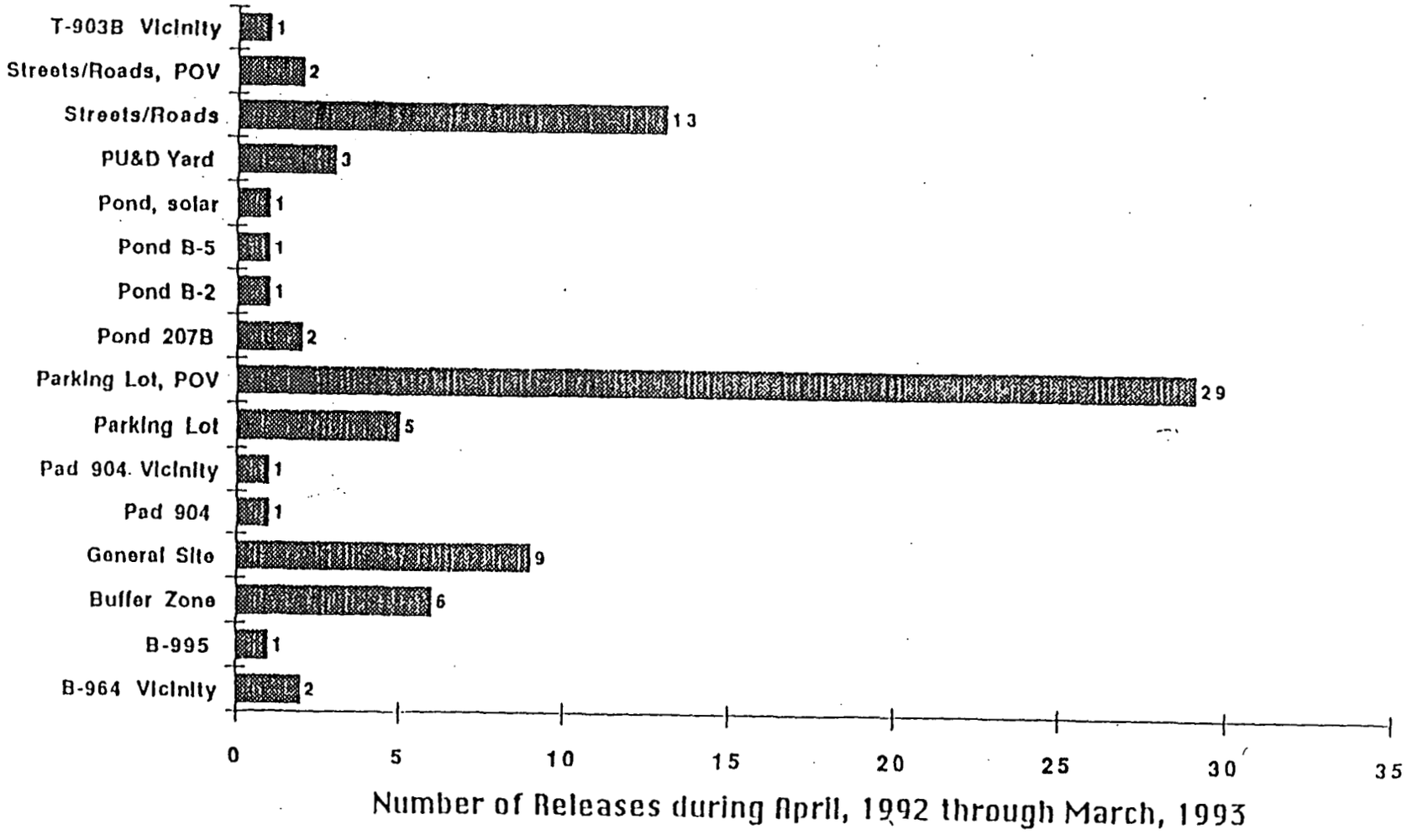
RELEASE GRAPHICS

RELEASES(1) OCCURRING OUTSIDE BUILDINGS OR CONTAINMENT ONLY

(1) Includes all reported releases greater than or equal to one pound (or one pint of aqueous liquids) of hazardous substances (i.e., CERCLA hazardous substance, RCRA hazardous waste, SARA Title III extremely hazardous substance, DOT hazardous material, petroleum products, and nonhazardous substances (e.g., water) containing hazardous constituents.

NOTE: All reported mercury releases are included in data base including releases less than one pound.

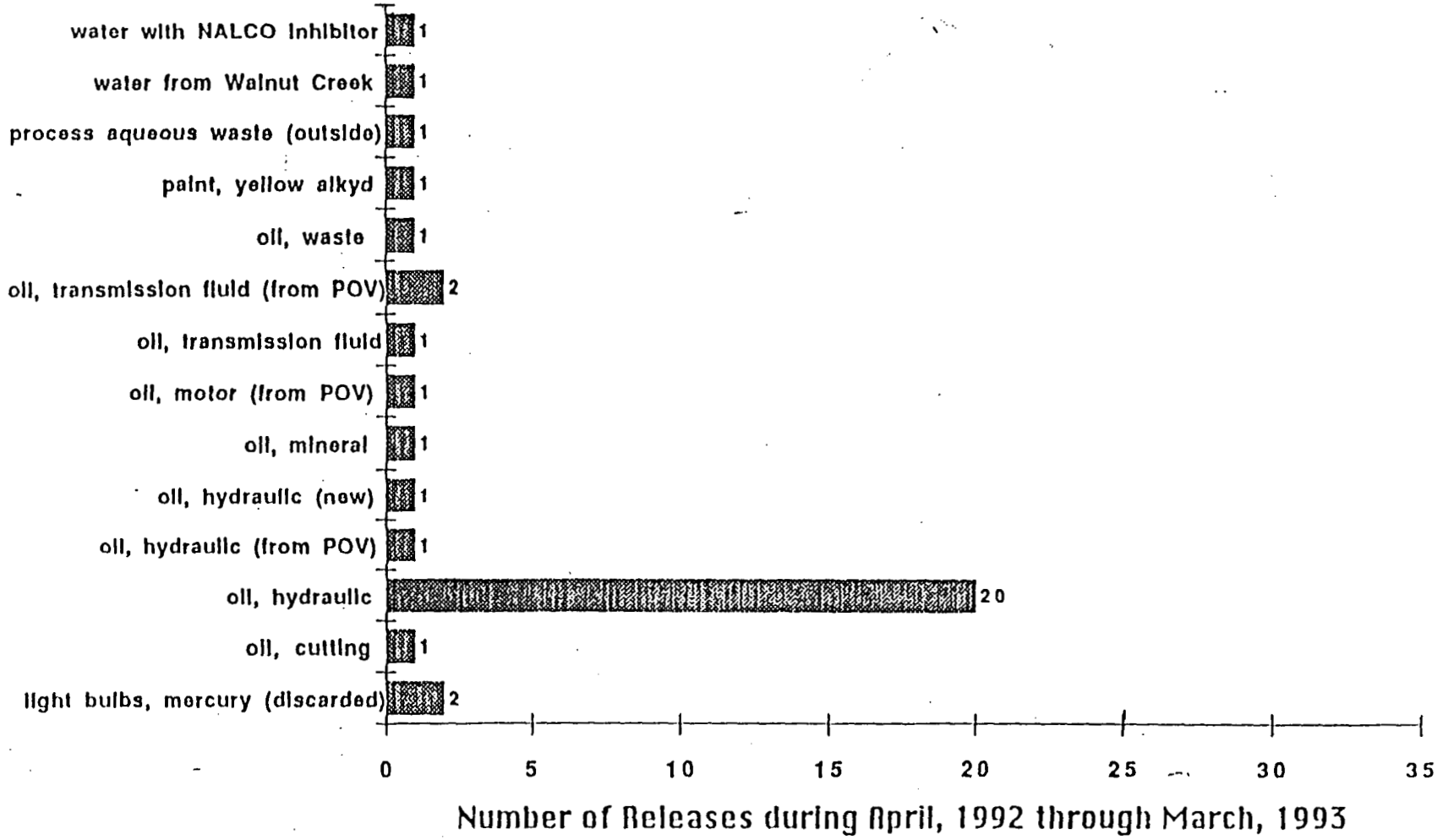
Outside Only Releases by Location



Outside Only Releases include 31 Releases from POVs

4/16/93

Outside Only Releases by Substance Type



Outside Only Releases include 31 Releases from POVs

4/16/93